

TELEPHONE (312) 258-5500

SCHIFF, HARDIN LLP

PATENT DEPARTMENT

6600 SEARS TOWER

233 SOUTH WACKER DRIVE

CHICAGO, ILLINOIS 60606

GROUP ART UNIT: 3737

RE APPLICATION OF: Schuster et al.

SERIAL NO.: 10/611,456

EXAMINER: Roy Baisakhi

FILED: July 1, 2003

CONFIRMATION NO.: 1611

TITLE: "MAGNETIC RESONANCE APPARATUS WITH A MOVABLE GRADIENT COIL UNIT"

APPLICANTS' RESPONSE TO THE APRIL 6, 2006 OFFICE ACTION**MAIL STOP AMENDMENT**

Commissioner for Patents

P.O. Box 1450

Alexandria, Virginia 22313-1450

SIR:

Transmitted herewith is an amendment in the above-identified application.

☒ No additional fee is required.

The fee has been calculated as shown below.

CLAIMS AS AMENDED						
	(2) CLAIMS REMAINING AFTER AMENDMENT		(4) HIGHEST NO. PREVIOUSLY PAID FOR	(5) PRESENT EXTRA	(6) RATE	(7) ADDITIONAL FEE
TOTAL CLAIMS	*7	MINUS	**8	X	() X 25.00 () X 50.00	
INDEP. CLAIMS	*1	MINUS	1	X	() X 100.00 () X 200.00	
Application amended to contain any multiple dependent claims not previously paid for.				() YES () NO	() \$180.00 () \$360.00 ONE TIME	
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT						\$0.00

* If the entry in Column 2 is less than the entry in Column 4, write "0" in Column 5.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20 write "20" in this space.

☐ Applicants petition the Commissioner of Patents and Trademarks to extend this time for response to the Office Action dated _____ for _____ months so that the period for response is extended to _____. A check in the amount of \$_____ is attached to cover the cost of the extension. Any deficiency or overpayment should be charged or credited to deposit account No. 501519. A duplicate copy of this sheet is enclosed.

☐ A check in the amount of \$_____ is attached.

☐ A check for \$_____ accompanying IDS under 37 CFR 1.97(c) is attached

☐ A check for \$_____ and Petition for Consideration of IDS under 37 CFR 1.97(d) is attached.

☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or to credit any overpayment to account No. 501519. A duplicate of this sheet is enclosed.

When phoning re this application, please call (312) 258-5500.

SCHIFF, HARDIN LLP (Customer Number: 26574)

Patent Department

BY Steven H. Noll (28,982)I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on July 5, 2006.

Steven H. Noll

NAME OF APPLICANT'S ATTORNEY

Steven H. Noll

SIGNATURE

July 5, 2006

DATE



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RESPONSE TO THE APRIL 6, 2006 OFFICE ACTION

APPLICANTS: Schuster et al. GROUP ART UNIT: 3737
SERIAL NO.: 10/611,456 EXAMINER: Roy Baisakhi
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S I R:

Applicants and their counsel have carefully reviewed the Office Action dated April 6, 2006, but believe the claims in their present form are patentable over the teachings of the reference relied upon by the Examiner. Reconsideration of the application in view of the following arguments in support of patentability is therefore respectfully requested.

In the Office Action dated April 6, 2006, claims 1-8 were rejected under 35 U.S.C. §102(b) as being anticipated by Englund et al. The Examiner stated the Englund et al reference discloses a coil unit that is movable into and out of the examination space, and is coupled to the patient bed for moving the coil unit relative to the examination space, with the coil unit being joined to the bed. Applicants do not agree with these conclusions of the Examiner, for several reasons, and moreover the Examiner has ignored, and not cited any teachings in the Englund et al

references for, a significant feature of the language of claim 1. This rejection is therefore respectfully traversed.

First, although in the description that makes reference to the drawings in the Englund et al reference, the term "coil unit" is used, it is clear that this refers to a *radio frequency* coil, rather than a gradient coil, as required in claim 1 of the present application. This is made clear by the introductory portion in the Englund et al reference, which is specifically directed to problems associated with positioning radio frequency coils. Moreover, in the various embodiments disclosed in the drawings of the Englund et al reference, the aforementioned coil unit is variously referred to as a "body coil 4" and a "spine coil 10" and a "knee coil 11," all of which would be immediately recognized by a person of ordinary skill in the field of magnetic resonance imaging as being radio frequency coils, and not being gradient coils.

Aside from this basic difference between the Englund et al disclosure and the subject matter of claim 1, the mounting and movement of the radio frequency coil unit in the Englund et al reference does not conform at all to the language of claim 1 of the present application. In the substantiation of the rejection of claims 1-7 as being anticipated by Englund et al, the Examiner simply referred to the Englund et al reference as teaching a coil unit that is movable into and out of the examination space and is coupled to the bed (i.e. the patient bed) for moving the coil unit relative to the examination space with the coil unit joined to the bed. The Examiner cited column 4, lines 47-55 in the Englund et al reference as providing such a teaching.

Applicants do not disagree that the Englund et al reference provides such a teaching, however, the Examiner has ignored important language in claim 1, and

therefore the fact that the Englund et al reference provides the teaching noted by the Examiner is irrelevant.

Claim 1 does not merely refer to the coil unit as being "coupled" to the patient bed so as to be movable into and out of the examination space, but states that the coupling device automatically firmly joins the gradient coil to the patient bed mechanism when the patient bed mechanism moves toward and contacts the gradient coil unit in a movement direction, and releases the gradient coil unit from the patient bed mechanism when the patient bed mechanism again moves in the movement direction. Therefore, the patient bed in claim 1 does not reverse direction in order to release or decouple the gradient coil unit from the patient bed. Instead, the coupling and decoupling occur with the patient bed moving in the same direction. No such structure is disclosed in the Englund et al reference, and the Examiner did not even provide a citation to the Englund et al reference that the Examiner believes provides such a teaching.

In fact, there is no disclosure whatsoever in the Englund et al as to how the radio frequency coil unit is decoupled from the portion of the patient support mechanism on which it is mounted.

In the Englund et al reference, the patient support mechanism is formed by a lower bed 2 and an upper bed 1 that are independently movable. The patient lies on the upper bed 1, and the radio frequency coil unit is mounted to the lower bed 2. As shown in the sequence in Figure 1 of the Englund et al reference, the radio frequency coil unit is mounted on the lower bed 2 outside of the magnet 6, and the patient on the upper bed 1 is moved relative to the lower bed 2, and thus relative to the coil unit, so as to appropriately position the patient with respect to the radio

frequency coil unit outside of the magnet. Once this proper positioning has been achieved, both the upper bed 1 and the lower bed 2 are moved together into the magnet 6, for conducting the magnetic resonance examination. In the sequence shown in Figure 1, the radio frequency coil unit is at all times mounted to (fixed to) the lower bed 2. Moreover, it is explicitly stated at column 5, lines 24-28, that the platform 5, on which the lower bed 2 moves, is provided with a stopper 7 that *precludes* the lower bed 2 from moving beyond the imaging position. Since it is clear from the lowermost illustration in Figure 1 that, in this imaging position, the radio frequency unit is fixed to the lower bed 2, and since the lower bed 2 is precluded by the stopper 7 from moving any farther to the right, it is clear that decoupling of the radio frequency unit from the lower bed 2, with the lower bed 2 continuing to move in the same direction as it moved in order to introduce the radio frequency unit and the patient into the patient examination region, is impossible in the apparatus disclosed in the Englund et al reference.

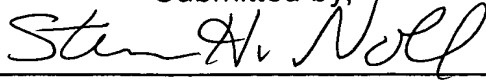
Applicants acknowledge that since different types of radio frequency units can be substituted for one another, the radio frequency unit must have the capability of being detachable from the patient bed 2. There is no disclosure in the Englund et al reference, however, as to how such detachment occurs, nor is there any teaching or disclosure in the Englund et al reference that such decoupling can or should occur automatically, as also set forth in claim 1.

In summary, the Englund et al reference does not disclose a gradient coil, and includes structure that makes it impossible for the operation described in claim 1 of the present application to occur, and does not disclose any details of how the radio frequency unit is detached from the patient bed 2. For all of these reasons, the

Englund et al reference clearly does not anticipate claim 1, nor any of the claims depending therefrom.

All claims of the application are therefore submitted to be in condition for allowance, and early reconsideration of the application is respectfully requested.

Submitted by,



(Reg. 28,982)

SCHIFF, HARDIN LLP
CUSTOMER NO. 26574
Patent Department
6600 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606
Telephone: 312/258-5790
Attorneys for Applicants.

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